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CENTRAL INTELLIGENCE AGENCY REPORT INFORMATION REPORT CD NO. COUNTRY Best Certainy DATE DISTR 31 January 1909 SUBJECT Germanium Transistor Development at NO OF PAGES VEB Werk fuer Fernmeldensen (OSW) Berlin-Oberschoeneweide PLACE NO. OF ENCLS. ACQUIRED LISTED BELOW DATE OF SUPPLEMENT INFO. REPORT NO. HIS IS WREVALUATE

frem Fernandewesen (formerly Osw) in-Oberscheenewelde under the supervision of Dr. Bingel (fine).
rk continued sethout suppress for a sether long-seriod and Dr. Bingel was finally relieved of his canonions! During the last two years (1953/1954) the development has been headed successively by Dr. Kurt Richter and Dr. Walter Rohdos a returnee from the Soviet Unions The latter is now restonable for the scientific supervision of OSW germanium transistor developments. He is assisted by Dipl. Phys. 25X1 Boell (fnu) who is in charge of germanium technology, in particular germanium purification. In late 1953, Dr. Rohde submitted a final report (Abschlussbericht) on the development to the Central Office for 25X1 Fasearch and Technology (Zentralamt fuer Forschung und Technik-ZAFT) of the State Planning Commission in which the successful termination of the development was reported, and requests for a new order bearing on the production of the devices were made. This report, however, was remature and contained many errors as was found out later when the report was made available to the Work Circle for Semi-Conductors (Arbeitskreis Halbleiter) A few samples of model transistors which were completed by the OSW team 25X1 when the report was forwarded to ZAFT turned out to be faulty. The germanium monocry tals used were not sufficiently pure and had not even been provided with defined impurities. The OSW enterprises did not obtain the expected production order but continued the development of germanium transistors. The mentioned termination report to ZAFT was changed and corrected several times during the period from January through August 1954. By August 1954, a few new sample models, which here alleged to be improved versions of the first ones, were completed. However, these models still were unusable. The OSE development team has since carried on the development and the firm still hopes to a production order from the government, in spite of the fact that in the meantime the VrB Werk fuer Bauelemente der Nachrichtentschnik, Carl von Ossietzky (formerly Dralowid) in Teltow, had successfully completed germanium transistor development, although work at this plant had started much later than the OSW development. The OS: firm hopes to reverse a proliminary decision by the State Planning Commission to the effect that transistor production should be exclusively entrusted to Dralowia.

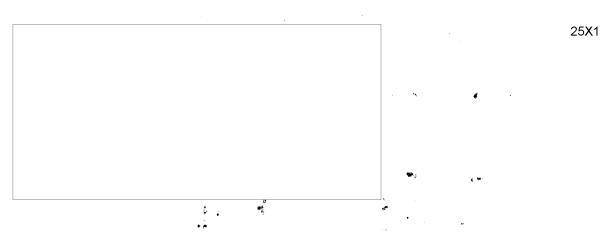
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This pope is based on the fact that the management of OSW has better point sal relations with the government than that of Dralowid.

- Boell (Inu) has used the Bridgemen method for the purification of the OSW garranium. Before being subjected to purification by this method the germanium was purified chemically. It was first transformed into germanium tetrechloride, which was chemically purified through fractionhand distillation and subsequent hydrolyzation. The resulting germanium florers was then reduced with the aid of hydrogen to pure germanion For bridgeman purification, the germanium was put into a graphite container 400 millimeters long, with an internal diameter of 3 mm. This container was inserted into an evacuated quartz tube inside of which the pressure was tan power minus 3 (10,2) torr. The tube with the graph to contain in the was brought into a melting oven with inductive heating and, after matting of the germalium, was drawn out of the oven at a spe deep 400 mm per house. The laxing parity of the germani m monocrystals thus obtained . The tube with the graph te container was 12 ohs centimeters. Rost of the monogrystals, however, had writy degrees of 2 and 4 ohn centimeters only. In view of this low parity degrees, the development team was forced to make transistor samples directly From those monocrystals and did not even attach the problem of reviding per Mermanium monocrystals with defined inpurities. After August 1.54, the CFL development team started to build an installation for production of oure cermanium crystals by the gone melting procedure (Conenschmelzvers fahren)2. No conclusive r sults have been obtained so far.
- 3 It is estimated that the OSW firm has spent at amount of 600,000 to 700,000 DME for the transistor development since it started in 1950, including funds rovided by the Soviets.



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